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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,461	05/06/2004	Chi-Ming Hsiao	MTKP0067USA1	3460
27765	7590	02/01/2005	EXAMINER	
NORTH AMERICA INTERNATIONAL PATENT OFFICE (NAIPC)				LAM, TUAN THIEU
P.O. BOX 506				ART UNIT
MERRIFIELD, VA 22116				PAPER NUMBER
				2816

DATE MAILED: 02/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/709,461	HSIAO ET AL.
	Examiner Tuan T. Lam	Art Unit 2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 08 December 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,2,11 and 12 is/are rejected.
- 7) Claim(s) 3-10 and 13-20 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 06 May 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/08/2004
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

This is a response to the amendment filed 12/08/2004. Claims 1-20 are pending and are under examination.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carroll (USP 5,130,571) in view of Tsai (USP 5,825,219), both prior art of record.

Figure 4 of Carroll shows a switched capacitor circuit comprising a plurality of positive side switch elements (T24, T22) for selectively connecting a positive side first node (Vout) to a positive side second node (Vin) depending upon a control signal applied to a first control terminal (A, B), wherein the positive side first node is connected to a positive side capacitor (Cs) and when switching the capacitor circuit to an off state, sequencing the control signals such that the positive side switch elements are switched off sequentially (figure 5). Carroll does not teach the differently sized switch elements are off in the order of largest to smallest as called for in claims 2, 11 and 12. Figure 2 of Tsai shows a plurality of differently sized switched elements (300, 320, 340) connected in parallel. The plurality of the differently sized switched elements are turned off (released) in the order of the largest to smallest transistors (340, 320, 300) in order to improve speed and minimize noise. Therefore, it would have been obvious to a person skilled

in the art at the time of the invention was made to size transistor T24 of Carroll to be larger than the transistor T22 for the purpose of improving speed and minimizing noise as taught by Tsai.

Response to Arguments

3. Applicant's arguments filed 12/8/2004 have been fully considered but they are not persuasive. Applicant argues that Tsai does not disclose which components or exactly what feature of the circuit structure of figure 2 of Tsai causes the noise of the output driver to be reduced or the speed of the output driver to be improved is not persuasive. When a transistor is turned on/off with a sharp edge transition signal, noise occurs. This is known as switching noise. Applicant is referred to USP 5,483,188 (column 1, lines 1-45), mentioned in Tsai and were provided to the applicant in the last Office action, for further technical background relating to applicant's troubling of understanding as to which components or exactly what feature of the circuit structure of figure 2 of Tsai causes the noise of the output driver to be reduced or the speed of the output driver to be improved. As noticed in Tsai, by providing several output transistors differently sized and are switched off in the order of largest to smallest will reduce switching noise caused by Sharpe transition while still achieving a relatively fast signal transition. Therefore, it would have been obvious to a person skilled in the art at the time of the invention was made to size transistor T24 of Carroll to be larger than the transistor T22 for the purpose of improving speed and minimizing noise as taught by Tsai.

Allowable Subject Matter

4. Claims 3-10 and 13-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan T. Lam
Primary Examiner
Art Unit 2816

1/27/2005